The Effect of the Hotel Attributes on Guest Satisfaction Due to the Covid-19 Pandemic Crisis: The Case of the Greek Tourism and Hospitality Sector

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Abstract The COVID-19 pandemic may be one of the most influential and unprecedented events of the global economy, affecting the performance and stability of the tourism and hospitality industry. Thus, given the significant positive impact of the tourism sector on the global economy, the negative implications on the sector of tourism industry and hospitality by the outbreak of COVID-19 are extremely important. The COVID-19 crisis has led to the emergence of new economic and social policies that has hastened a number of structural changes in the tourism and hospitality industry, which influence the guest satisfaction. In Greece, the tourism sector is one of the key factors of economic growth. In 2019, the tourism industry contributed 20,8% to the country's GDP with more than 34 million international visitors. However, in 2020, the number of visitors decreased roughly over 78%, due to the Covid-19 pandemic. This research attempts to reveal the change in the effect of the hotel attributes on guests' satisfaction due to the COVID19 pandemic crisis. It builds upon the study of (Srivastava and Kumar, Tourism Management Perspectives 40, 2021) by extending the sample to include data from the Greek hospitality sector. Tripadvisor was used as a source to collect reviews of 5-star hotels in Athens, Greece. The findings revealed that the main topic of guests' reviews was not the protocol and the social distancing measures in public areas but hotel, rooftop quality, restaurant, location and pool area condition.

Keywords Hospitality industry · Tourism industry · Tourism policy · Covid-19 · Greece

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1 Introduction

Given the significant positive impact of the tourism and hospitality sector on the global economy, the negative implications on the sector of tourism services and hospitality by the outbreak of COVID-19 are extremely important. Based on preliminary predictions, the global economy will face a recession of approximately 5% to 6% on an annual basis. It will mostly affect economies similar to the Greek one, in which the specific sector contributes about 13% of annual GDP (ILO 2020). Furthermore, ILO (2020) indicates that the pandemic of COVID-19 led to the closure of operations of hotels, tour operators, restaurants, airlines, and cruise-liners since min-January 2020, facing a very difficult business environment with major impacts on employment opportunities. The gradual return to the position existed before the outbreak will require a co-ordination of economic policies by national governments and international organizations like the economic measures that have already been decided by the European Commission and the European Central Bank. Within this framework, the adoption of measures to support tourism business and the maintenance of job positions to avoid drastic reduction of incomes will be very important for the revival of the tourism sector.

Risk and uncertainty in international tourism business has significantly increased due to the pandemic of COVID-19 (Sharma et al. 2020). A number of researchers as well as professionals argue that the strategies developed as a response on the enforced lockdown in business activities should be carefully designed and associated with each stage of re-opening of business.

On another strand of the literature that focuses on the impacts of the pandemic, Zenker and Kock (2020) odelli the negative effects of COVID-19 on the tourism industry, focusing on the long-term and indirect effects and change in tourism and hospitality odelling. Moreover, the paper attempts a comparison of the consequences of the current pandemic with previous disasters and crises, aiming to explain how the tourist industry could manage to recover.

The cancellations of the flights by airlines both domestically and internationally have severely influenced the global economy (Hoque et al. 2020) along with the decrease in the demand for hotels and restaurant services. Moreover, short-term letting provided by Airbnb has also faced a decline as a result of COVID-19 (Dolnicar and Zare 2020). This decline will provoke a number of chain reactions to the supply as well as the regulatory framework of the online platforms of short-letting.

According to Sigala (2020), COVID-19 impacts will provoke structural changes to the tourism industry in terms of demand, supply and destination management organization. The number of flights and tourists to Greece and inevitably the contribution of tourism to GDP have been considerably decreased since 2019, verifying the predictions (Medová et al. 2021). Greek government's practices initially targeted the economic support to tourism businesses and employees who were forced to

instantly stop their operations (Fotiadis et al. 2021). However, even when the industry was gradually reopening the governmental support was necessitated, while Tsionas (2021) forecasted that post-COVID-19 gradual adjustment in the tourism and hospitality would take time and needs a careful and detailed strategic plan. On the other hand, tourism professionals upgraded the hygienic standards and protocols applied, increasing the role of technology in their daily business operations (mobile apps, covid-free pass, digital payments, contactless services etc.) (Sigala 2020).

In the last few years, numerous studies have been conducted to examine hotel guests' reviews during the Covid-19 pandemic. However, most of these studies have focused on large countries in Asia (e.g. Hu et al. 2021; Sharma and Kaushik 2021) and America (Peres and Paladini 2022). As culture is a significant factor which affects business decisions (Deirmentzoglou et al. 2020; Deirmentzoglou 2022), this research aims to identify the main topics of discussion that emerged during the Covid-19 pandemic on 5-star hotel reviews in the capital city of Greece, Athens, and how these topics changed over time. By reviewing the user generated contend created on the platform of Tripadvisor from January 2019 till May 2022, this paper attempts to detect the hotel characteristics that may cause visitor satisfaction or dissatisfaction. At the same time, the structural topic odelling (STM) allows the comparison between the pre- and post- covid periods and detects the possible changes in the reported characteristics.

2 Literature Review

The tourism sector is one of the main sectors that affects and is affected by the virus transmissions (Yu et al. 2020). Travelers are a main source of the uncontrolled virus spread, and at the same time, hotels face the negative consequences of the travel restrictions and the strict government regulations regarding Covid-19.

The importance of hotel attributes have changed due to the current pandemic crisis. Previous research shows how pandemics change tourists' expectations and decisions regarding travelling (e.g., Wen et al. 2005). During the pandemic of Covid-19 numerous studies have been conducted in order to reveal this change (e.g., Kim & Han 2022; Hu et al. 2021). This type of research is significant as hotel managers can identify the critical services that can offer in order to meet the expectations of their customers (Hu et al. 2021).

Travelers can try hotel services only after they arrive at the hotel; thus, reviews have a critical role in their purchase behavior (Ullah et al. 2019). In the last few years, examining reviews or other kinds of text on digital platforms like tweets (e.g. Kydros et al. 2021; Kydros and Vrana 2021) is a common practice. For instance, Sun et al. (2021) examined the hotel guests' satisfaction before and during the period of the Covid-19 pandemic. Data were collected from reviews of Chinese hotels on Tripadvisor.com. Based on the findings, guests seem to give better reviews during the Covid-19 period and give emphasis on health-related measures and practices. Peres and Paladini (2022) examined the hotel attributes in Brazil based on guests'

reviews from the website booking.com. The findings revealed that during the period of the Covid-19 pandemic, guests gave lower ratings to hotel attributes than in the period before the pandemic. Specifically, attributes regarding cleanliness and check-in process were affected in a negative way by the pandemic. These results are opposed to Sun et al's. (2021) study meaning that hoteliers in Brazil failed to adapt to the changing environment and meet the expectations of their guests.

The importance of the hygiene attribute is not something new as studies before the Covid-19 situation have claimed that hygiene measures and practices are critical factors in the hotel industry (Vos et al. 2019). Thus, these factors can play a significant role in travelers' behavior. Yu et al. (2021) examined the hotels' perceived attributes regarding hygiene and their influence on travelers' intentions during the Covid-19 pandemic. Data were collected from travelers who visited a hotel during this period and the results confirmed that hygiene factors had a strong positive effect on guests' behavior.

Current studies investigated the effects of hotel attributes on hotel guests' behavior. Kim and Han (2022) examined travelers' selection criteria regarding hotel attributes before and during the Covid-19 era. The qualitative and quantitative data that were collected confirmed the findings of previous studies. The hotels' reputation, check-in process, value for money, employees' professionalism and cleanliness are some of the main hotel attributes that play a significant role in travelers' purchase selections. Moreover, this study revealed a new attribute that is related to the significance of the physical environment. During the Covid-19 pandemic, these attributes had an even more important role in guests' selection criteria, with safety and hygiene attributes (social distancing, sanitizers, thermal scanners, QR-code based entrance etc.) holding the lead.

Hu et al. (2021) examined tourists' perceptions regarding hotel attributes during the pandemic of Covid-19. In this research, data were collected from more than 98 thousand hotels in China and the findings revealed that travelers have changed their priorities regarding hotel attributes. More specifically, guests during the pandemic started to give more emphasis to attributes that are relevant to hygiene factors while they tend to show understanding when a hotel is lowering the standards in factors that are not significantly related to safety issues. During the pandemic, dominant attributes like "price" and "bed" have ceased to be considered factors of high importance.

Furthermore, recent studies have focused more on the importance of sanitation and cleanliness. For instance, Sharma and Kaushik (2021) examined hotel practices in India. Their findings revealed that the Covid-19 pandemic made hoteliers implement high standards regarding cleanliness and keep them even after the end of the pandemic. Gupta et al. (2022) examined the emotions of 5-star hotels' guests regarding sanitation. The study revealed that guests express negative emotions when the hotels have poor sanitation standards. Finally, current research emphasizes the need for contactless services and new technologies regarding hygiene measures at hotels (Jiang and Wen 2020; Nayak et al. 2021).

Pappas and Glyptou (2021), using Greece as a case study, examine the travel accommodation preferences with respect to COVID-19, highlighting the importance of health and safety as well as the risk aspects. The same results are also

reinforced by the study of Metaxas et al. (2022) who associate travel intentions to Greece with health-protective behavior that is stronger for international than domestic tourists. Finally, Kourgiantakis et al. (2021) focus on the island of Crete and report an increase in domestic tourism activity (at least temporarily) due to the restrictions on international mobility as well as a strong preference patterns towards safety and privacy.

3 Methodology and Data Collection

To identify the changes in hotel attributes as the covid pandemic crisis progressed we collected and analysed Tripadvisor reviews following the method of Srivastava and Kumar (2021). We choose to study 5-star hotels located in Athens, as most of them remained open during the post-Covid period due to their organization while the majority of lower-rated hotels suspended their operations temporarily or permanently (ITEP 2021). This study attempts to provide insights to 5-star hotels managers, owners, and potential investors. The sector has suffered from the financial crisis that broke out in 2009, making potential investors more sceptical than before (Diakomichalis 2012). As a result, the number of the 5-star hotel located in Attica region and Athens remained stable from 2009 to 2012 (28 hotels in Attica and 14 in Athens) (Hellenic Chamber of Hotels 2022). Although, investors' interest returned some years later (the number of the 5-star hotels increased to 43 in Attica and to 23 in Athens in 2020), hotel owners should be prepared to tackle the possible negative effects of the Covid crisis (Hellenic Chamber of Hotels 2022). Consequently, from the 23 hotels that appeared on Tripadvisor we collect and analyze the reviews of the 14 that were open from January 2019 till May 2022. This period includes 13 months before the spread of Covid and 27 months after the outbreak of the Covid-19 pandemic crisis in Greece. It is important to mention that the industry was paused for more than 10 months due to the imposed lockdown, resulting in the period under study before and after Covid being almost equal. To collect data rvest package (Wickham 2022) in R was used. From the total number of the 2.477 reviews that were detected (Table 1) we chose 352 as a sample (first 2 reviews per hotel per quarter from January 2019 to May 2022 if available). All reviews collected were in English as the platform automatically translates them. Reviews with rating of one, two and three stars were perceived as negative and those of four and five stars as positive. The sample included 71 negative and 281 positive reviews.

To analyze data the structural topic modeling (STM) was used. This method uncovers the latent topics in a given text by analyzing the used words. Its topic includes a distribution of words and its text a collection of topics. STM is a formula that can include multiple covariates and factorial or continuous covariates. As it allows the inclusion of covariates it enabled us to detect the changes in hotel attributes as Covid crisis progresses (Srivastava and Kumar 2021). We modeled the prevalence

Table 1 Total number of reviews per hotel

Hotel name	Total reviews	Positive	Negative	From 1/19–5/22
Electra metropolis athens	1557	1416	142	379
Electra Palace Athens	4005	3545	460	311
Coco-Mat Athens BC	228	205	23	228
Grand Hyatt Athens	884	611	275	71
Wyndham Grand Athens	1323	992	231	332
King George, a Luxury Collection Hotel, Athens	1278	1205	74	18
St. George Lycabettus Lifestyle Hotel	3195	2293	902	513
NJV Athens Plaza	1326	1049	327	118
Divani Caravel Hotel	520	432	88	206
Royal Olympic	3396	2682	1254	227
Divani Palace Acropolis	668	521	147	26
Titania Hotel	2194	1192	1002	26
Perianth Hotel	127	113	11	11
Crowne Plaza Athens—City Centre, an IHG Hotel	1056	814	242	11
Total	21,757	17,070	5178	2477

of topics as a function of the year, the review extremity and the interaction of the two (*Prevalence = g(Phase, Positive, Phase*Positive)*). Time was perceived as a continuous variable while positiveness as a binary variable (Positive = 1, Negative = 0).

4 Results and Discussion

As a first step we checked the semantic coherence and the exclusivity scores when the number of topics vary from 10 to 50 and a model of 30 was chosen. The 30 topics that were detected are presented in Table 2. The topic label is an interpretation of the topics that was derived by using Probability, FREX, LIFT and Score metrics. Probability metric reveals the most frequent word in a topic (Roberts et al. 2019). The LIFT metric weighs words by dividing their frequency in the topic by their frequency in other topics and it applies higher weights to those words that appear less frequently in other topics (Roberts et al. 2019). Therefore, the weight is higher when the frequency in other topics is lower (Roberts et al. 2019). The difficulty with this metric is that unusual words are more likely to be highly ranked. On the other hand, FREX measure is defined as the ratio of a word frequency and its exclusivity in a topic (Bischof and Airoldi 2012; Roberts et al. 2019). Score compares the frequency of a word in a topic with the frequency of the word in other topics. Here we used a

combination of the of the Highest Probability and FREX metrics to assign labels to topics. In Table 2 you can see the most relevant terms for each topic using Probability and FREX as well as the given interpretative title. For example, we label Topic 13 Rooftop Quality due to the words rooftop, bar, view. Topic 10 was titled Intention to recommend due to the words recommend, high, spacious, great, room, high, view. The same reasoning, was used for the other 28 topics.

Figure 1 you the topic proportion is presented. From the detected topics (see Table 2) the most important are: 13 Rooftop Quality (Topic 13), Intention to recommend (Topic 10), Proximity to the Historic center (Topic 28), Restaurant (Topic 8), Hotel's location (Topic 3), Pool area condition (Topic 24).

Some examples of the documents (reviews) that are highly associated with the three most common topics (Protocols in Public areas, Intention to recommend, Proximity to the Historic center) can be found in Fig. 2. The quotes mentioned bellow support the interpretative titles that were applied to the detected topics. For example, expressions such as "*I highly recommend the", "the location could not have been better", "excellent hotel"* confirm the title given to Topic 13. For the Topic 10 expressions such as "*skinny balcony with a fairly limited view past anadjacent building", "At 6:30 am each day I would travel to the rooftop and sip coffee in the dark, and view the Acropolis, which was still lit" and "but the view from the rooftop was very good".*

The prevalence of topics as a function of time (year) is plotted with a 95% confidence interval (Fig. 3). The role of Covid-19 burst-out is not clear on the topic "Intention to recommend" (Topic 10). While the topic was important at the beginning of 2019 it prevalence decreased during 2019 and increased again since 2020 that Covid-19 burst out and it peaks in the second quarter of 2021 (coefficient of year $= 0.576$ $p > 0.05$). It includes the terms recommend, high, choos(e), caravel, beauty(ful). For the topics 13 "Rooftop Quality" and "Proximity to the Historic center" time was not found to be significant although they show a decrease as Covid-19 progresses. The topic "13 Rooftop Quality" (topic 13) includes terms such as protocol, rooftop, Covid, profession, bar (coefficient of year $= 0.529$ $p > 0.05$). Rooftop Quality was important even before the pandemic of Covid-19, but their importance seems to diminish since the third quarter of 2021. The same is with the topic "Proximity to the Historic center" (Topic 28) whose importance has diminished since the first quarter of 2020 (coefficient of year $= 0.9$ $p > 0.05$). The topic consists of parthenon, histor(ic), oliv(e), locat(e), distanc(e). The importance of "restaurant's quality" (topic 8) (team, dinner, amaz(ing), sanit(e), profession(alism)) remained almost unchanged through the years (coefficient of year $= 0.55$ $p > 0.05$). The same is with "Hotel's location" (topic 3) (coefficient of year $= 0.99$ $p > 0.05$) that consists of the terms near, proxim(ity), meter, alexand(er), omonia. Lastly, the prevalence of the "Pool area condition" (topic 24) decreased and then increased again (coefficient of year $= 0.6$ $p > 0.05$).

Table 2 Emerged Topics

Frex	Probability
1. Property Impression town, check, beauty, property, polite, pleas, great	**1. Property Impression** hotel, great, room, stay, locate, Athens, restaurant
2. Food fresh, wasnt, open, buffet, salad, image, enter	**2. Food** hotel, room, breakfast, view, nice, buffet, acropolis
3. Hotel's Location excellent, near, beauty, meter, square, large, restaurants	**3. Hotel's Location** hotel, excellent, breakfast, great, restaurants, room, good
4. Service custom, people, representative, table, actual, boutique, greek	**4. Service** hotel, room, two, day, people, place, want
5. Reasons for traveling city, break, except, center, fair, short, wife	**5. Reasons for traveling** hotel, room, nice, staff, city, location, Athens
6. Protocols and Social distancing measures mask, wear, week, client, cold, star, menu	**6. Protocols and Social distancing measures** hotel, breakfast, staff, room, star, food, mask
7. Overall experience Greece, wonder, tour, spend, greet, fire, fan	**7. Overall experience** hotel, wonder, room, time, Areece, stay, Athens
8. Restaurant amazing, dinner, team, come, definitely, will, profession	**8. Restaurant** amazing, hotel, staff, view, Athens, friend, service
9. Cancelation process cancel, refund, book, email, month, custom, disappoint	**9. Cancelation process** book, hotel, cancel, room, disappoint, check, travel
10. Intention to recommend recommend, high, caravel, business, Athens, spacious, wonder	**10. Intention to recommend** hotel, Athens, recommend, great, room, high, view
11. Noise mirror, music, sleep, hear, outlet, double, air	**11. Noise** room, night, hotel, book, stay, next, double
12. Honeymoon experience, service, georg, vacation, excel, taken, honeymoon	**12. Honeymoon** service, hotel, stay, excel, room, experience, staff
13. Rooftop Quality rooftop, excel, electra, Athens, bar, hyatt, Covid	**13. Rooftop Quality** view, stay, Athens, rooftop, breakfast, hotel, acropolis
14. Relaxing Atmosphere guest, enjoy, vacation, unexpected, plaza, relax, wine	**14. Relaxing Atmosphere** staff, great, hotel, enjoy, guest, time, good

Table 2 (continued)

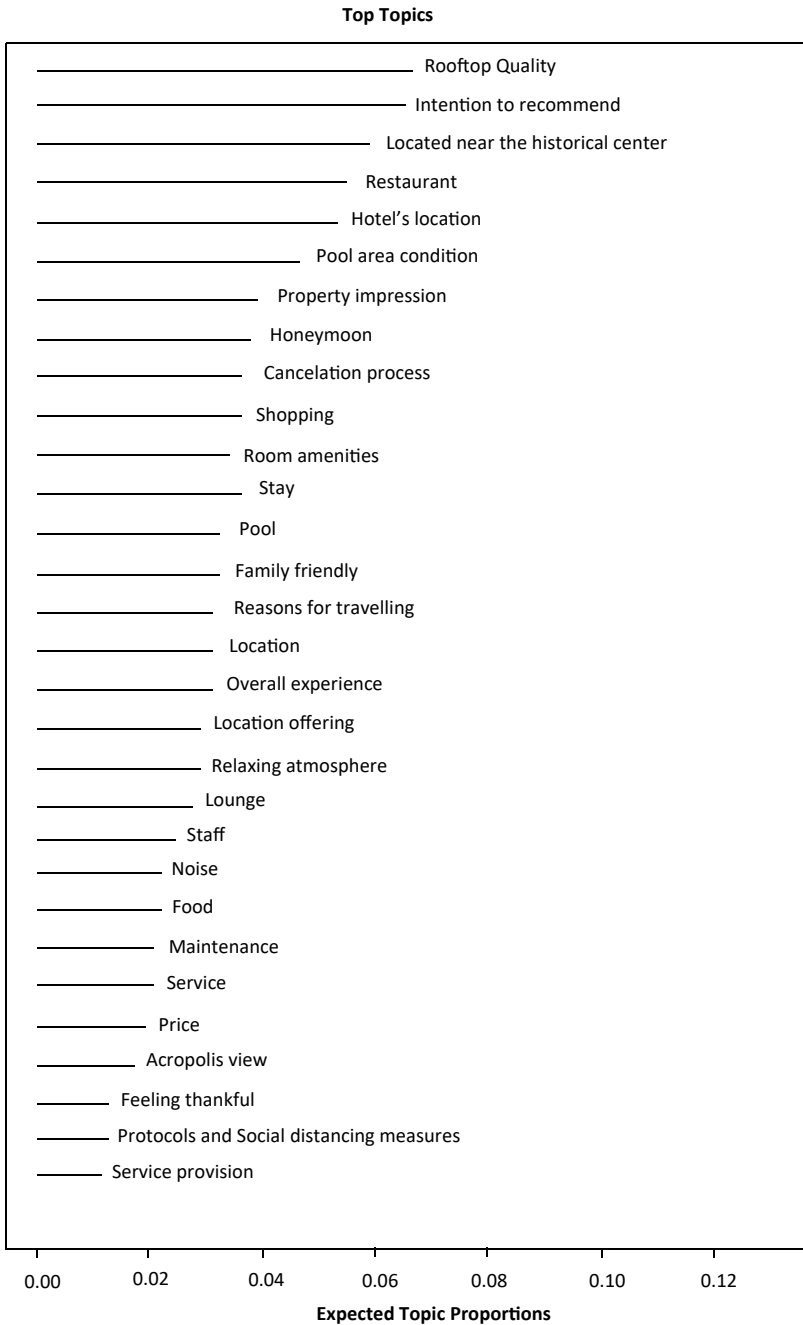| Frex	Probability
15. Room Amenities bed, quit, pool, terrace, average, sun, machine	**15. Room Amenities** room, view, hotel, pool, bed, good, service
16. Front Desk desk, front, though, suit, available, globalist, dish	**16. Front Desk** view, locate, room, desk, front, stay, breakfast
17. Price price, pay, book, euro, manage, reason, chic	**17. Price** hotel, book, room, price, stay, view, good
18. Lounge check-, lounge, bit, window, coffee, near, personnel	**18. Lounge** hotel, room, help, staff, breakfast, coffee, check-
19. Shopping shop, nice, value, walk, safe, hyatt, modern	**19. Shopping** hotel, nice, good, walk, room, location, shop
20. Acropolis–View realli, however, actual, surprise, posit, massage, spa	**20. Acropolis – View** realli, hotel, staff, recommend, nice, breakfast, room
21. Maintenance morn, garden, smoke, recommend, balcony, weight, center	**21. Maintenance** hotel, room, view, good, acropolis, recommend, one
22. Location door, georgi, king, parliament, great, facility, bit	**22. Location** great, hotel, stay, location, breakfast, door, room
23. Staff available, yes, reserve, get, large, change, seem	**23. Staff** room, hotel, staff, breakfast, Athens, get, available
24. Pool area condition rooftop, pool, love, small, live, good, upstairs	**24. Pool area condition** great, good, pool, love, hotel, view, location
25. Location Offering hop, museum, stop, wing, easiest, hop-, lot	**25. Location Offering** acropolis, room, hotel, view, breakfast, restaurant, good
26. Service provision security, elite, card, cab, went, water, honest	**26. Service provision** hotel, room, get, service, just, nice, water
27. Family-friendly include, morning, families, flight, tire, night, delight	**27. Family-friendly** room, stay, breakfast, hotel, night, clean, staff
28. Proximity to the Historical center perfect, distance, balconies, just, well, walk, wrong	**28. Proximity to the Historical center** perfect, hotel, locate, acropolis, staff, great, walk
29. Stay everyone, made, definite, mani, home, far, day	**29. Stay** stay, hotel, staff, Athens, day, time, made

(continued)

Table 2 (continued)

Frex	Probability
30. Feeling thankful went, beyond, thank, pleasant, kind, bath, incredible	**30. Feeling thankful** stay, room, staff, thank, went, hotel, pool

On the other hand the prevalence of the topic "Acropolis View (topic 20) decreased from 2019 to 2022 (p < 0.05). The topic consists of terms such as view, balconi, delux, acropoli(s), recommend. Lastly the prevalence of the topic "Noise" (topic 11) increased from 2019 to 2022 (p < 0.05). Some of the terms that are included in the topic are hear, annoy, nois(e), music, air.

5 Conclusion

In this study, a first attempt was made to examine the issues discussed by the visitors of the 5-star hotels in Athens in the last three years. The aim was to identify the main topics of discussion that emerged during the Covid-19 pandemic and how these topics changed over time. The findings revealed that rooftop quality, intention to recommend the hotel, hotel's proximity to the historic center, hotel's restaurant, hotel's location, and pool area condition were the main topics of discussion. The detected topics, revealed by this study, are in accordance with the previous research (e.g., Kim & Han 2022; Sun et al. 2021). For instance, Sun et al. (2021) claimed that hotel guests gave emphasis on protocols and health-related measures and practices. Protocols and social distancing measures were revealed from data as a factor that influences guests' satisfaction although it was not included in the most frequent topics. The low frequency of this topic was not expected as the hospitality sector was still striving to recover from the consequences of the pandemic crisis. It has also been observed that topic 6 appeared in guests reviews even before the Covid-19 outbreak. Thus, it has to be considered that protocols in hotels not only refer to Covid-19 but to other hotel policies as well. The low frequency of this topic can be justified by the fact that people may got tired of discussing the pandemic especially when they are on holidays. Probably, this is the reason why topics regarding the hotel's location, restaurant, and the pool's area condition showed an increase in guests' reviews during 2021–2022. However, it has to be mentioned that a larger sample of reviews is needed in order to interpret with more accuracy these variations.

This study shows how pandemics change tourists' expectations and decisions regarding travelling and has significant implications for the literature on tourism and hospitality as it is the first that analyzes the Greek 5-star hotel reviews during the Covid-19 pandemic with the method of structural topic modelling. Apart from the research interest, this study gives significant guidance to hotel managers, hospitality consultants and policymakers as they can be aware of the points that play a crucial role in customers' experience regarding their accommodation and detect areas for

Top Topics

Fig. 1 Topic proportion

Rooftop Quality

Excellent hotel, great location This was our first trip to Athens and after 40 hours travel from New Zealand we were pleased to be greeted by very friendly staff who recognized our need to get some immediate rest. Our room on the 4th floor was spacious and generally well appointed with all facilities working. And a real pre-requisite for me – a shower with lots of water that didn't vary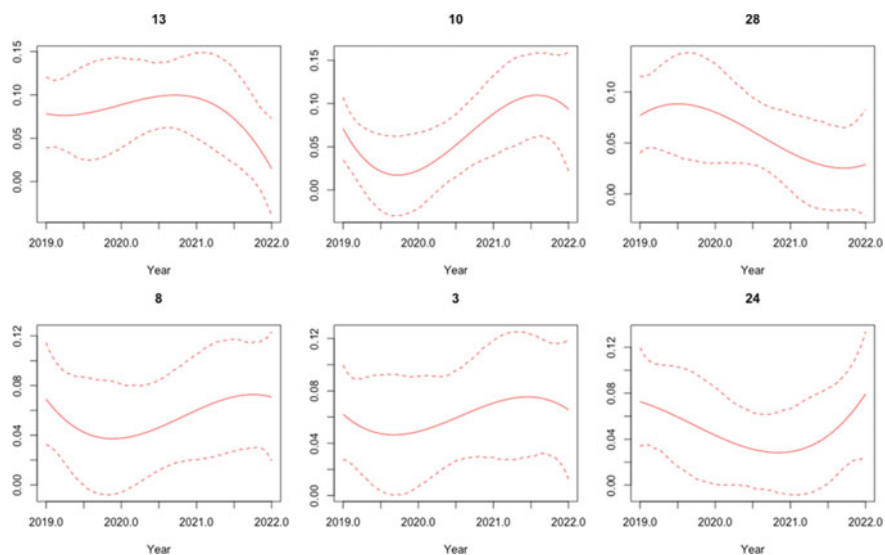 in that didn...t in temperature. The one downside was the rather skinny balcony with a fairly limited view past an adjacent building.

We will stay there again. My wife and I stayed here during a 14 night tour of Greece through Gate 1 travel. … Staff were great, rooftop restaurant, where we had breakfast daily and occasionally cocktails in the evening was in the evening was magnificent. (A perfect view of the Acropolis). Easy walk to shops and restaurants. At 6:30 am each day I would travel to the rooftop and sip coffee in the dark, and view the Acropolis, which was still lit. This before breakfast. Many conversations with the very friendly staff. We are planning on returning to Athens, and we will stay there.

Good 3 night stay We stayed for 3 nights as we wanted to spend some time in Athens before flying off to the islands. The hotel is well situated in the city centre, had excellent air con (which helped a lot during the heatwave), we were upgraded from standard to exec. Cleanliness and Covid measures were excellent (in some cases we even had to turn the lovely cleaning ladies away). Rooms above the.. The breakfast was also decent (perhaps they could do with offering for free other types of coffee apart from filter) but the view from the rooftop was very good. We will return!

Intention to recommend

Excellent stay in lockdown conditions. For business reasons, I stayed recently at the Divani Caravel. Athens is in the middle of a 'hard' lockdown, but I felt quite safe at the Divani Caravel due to their efficient health and safety measures. Obviously the hotel was quite, which did not detract from the hospitality of those working in the restaurant and at the front desk. I highly recommend the

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Athens 5 star Hotel Experience Wife and I spend two nights prior to picking up our Viking cruise ship at this hotel. The hotel was chosen by Viking, and the location could not have been better, with easy access to many of the main attractions in the ancient city. Hotel was very comfortable with an excellent breakfast buffet. Very comfortable bed with top flight linens as well. Like most hotels

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Excellent hotel in Athens, only 20 min walk from Acropolis We booked a reward trip and received excellent service. Concierge was fantastic pre- and during trip. Front desk was welcoming and we felt very appreciated. Facility itself is awesome. Had a parthenon suite with 1.5 baths, 1 BR and large living room with large seating table. Breakfast was excellent, fresh and provided a large variety.

Proximity to the Historic center

A hotel like Greece This hotel embodies Greece: A really nice place, but quite worn out and desperately needing a renovation nobody can afford. I stayed in the smallest room class but on a European capital-scale it was big. Small balcony facing backyard, but not a bad view to Athens. And there's a well-equipped minibar – thanks for that. Acropolis is visible from almost all of Athens

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Great place to stay The hotel is perfectly located in the very center of Athens, just in between the two main squares Sintagma and Omonia. It takes less than 20 min walking through the most touristic area of Plaka and Monastiraki to get from the hotel to the Acropolis. The room was spacious, shiny clean and nicely decorated. The mosaic in the lobby presenting an olive grove is a genuine

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Perfect location! Excellent hotel! My daughter and I stayed in a Suite-well worth the extra money. Loved the 'richness' of the place-the fold and royal blue. The sofa with matching chairs and books in the rooms, etc. The rooftop breakfast was superb-what a beautiful view. The bar is open and it was wonderful having a drink at the end of a long day of touring while watching the sunset over

Fig. 2 Examples of reviews per topic

future investment. Finally, this study presents the methodology that will follow the research which will include a larger sample of reviews in volume and time range, as of now only a sample of 352 reviews was examined.

Fig. 3 The prevalence of the most important as a function of time

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